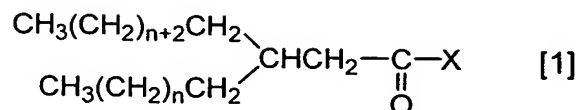


Claims

1. A carbonyl compound represented by the following formula [1],

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wherein X is hydrogen, a hydroxy group, an alkoxy group or a group derived from a polyol, and n is 4 to 30.

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2. The carbonyl compound according to claim 1 wherein n of the formula [1] is 4 to 20.

3. The carbonyl compound according to claim 1 wherein n of the formula [1] is an even number of 4 to 10.

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4. The carbonyl compound according to claim 1 wherein n of the formula [1] is 6.

5. The carbonyl compound according to claim 1 wherein X of the formula [1] is an alkoxy group (-OR) and R is a hydrocarbon group with 6 to 30 carbon atoms.

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6. The carbonyl compound according to claim 1 which is an ester compound derived from a hindered alcohol.

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7. The carbonyl compound according to claim 6 wherein the hindered alcohol is a compound selected from trimethylolpropane, trimethylolethane, and neopentylglycol.

5 8. A synthetic lubricant comprising the carbonyl compound according to any one of claims 1 to 7.

9. A cosmetic base material comprising the carbonyl compound of claim 5.

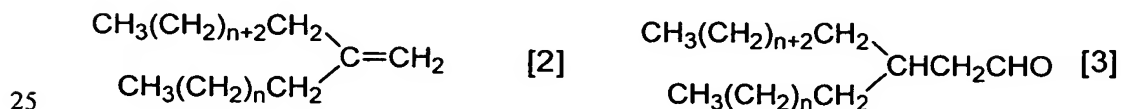
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10. A plasticizer comprising the carbonyl compound of claim 5.

11. A method for producing the carbonyl compound according to claim 1 comprising the steps of:

(a) dimerizing a compound represented by $\text{CH}_3(\text{CH}_2)_{n+2}\text{CH}_2\text{CH}=\text{CH}_2$ (wherein n is 4 to 30) by using a metallocene catalyst to synthesize a vinylidene compound of the following formula [2], and

20 (b) reacting the vinylidene compound of the following formula [2] with carbon monoxide and hydrogen under oxo reaction conditions to synthesize an aldehyde compound of the following formula [3].



12. The method according to claim 11 further comprising the step of:

(c) oxidizing the aldehyde compound of the formula [3] under oxidizing reaction conditions to synthesize a carboxylic
5 compound of the following formula [4].

